

## Claims

1. A process for training healthcare providers procedures for using radiological equipment comprising:

obtaining available operating procedures for radiological equipment used in treatment and training facilities;

creating a computer software representation of said radiological equipment operating procedures;

obtaining operating parameters for each piece of radiological equipment;

creating computer software representative of the operating parameters for each piece of radiological equipment;

establishing optimum operation procedures from experts to be followed for various given patient problems;

creating computer software representation of said optimum operating procedures.

presenting a trainee with a practical problem that involves use of said radiological equipment in said treatment facility;

obtaining the procedures used by the trainee to solve the problem presented;

comparing the procedures followed by the trainee with the optimum operating procedures established by the experts.

2. A process for training procedures as in claim 1 including:

creating said computer software representation of said radiological equipment so as to create computer-generated three-dimensional full-scale interactive virtual images.

3. A process for training procedures as in claim 2 including:

simulating the use of said radiological equipment by having the trainee interact with said computer-generated three-dimensional image.

4. A process for training procedures as in claim 1 including:

creating said computer software representation of said radiological equipment so as to create a virtual reality image.

5. A process for training procedures as in claim 1 including:

obtaining said available information on radiological equipment so as to include x-ray, CT and MRI, ultrasound, nuclear medicine, cardiac catheterization, mammography, positron emission tomography.

6. A process for training procedures as in claim 1 including:

creating computer software representation of the American Registry of Radiologic Technologists certification requirements for comparison with problem solutions to support simulation of the mandatory and elective radiological procedures.

7. A process for training procedures as in claim 1 including:

providing a virtual manikin for student problem solution interaction.

8. A process for training radiological procedures as in claim 7 including:

incorporating force- feedback gloves and sensor-enabling physical manikin interaction to demonstrate trainee competence.

9. A process for training procedures as in claim 1 including:

providing screen viewing and evaluation of virtual imaging that results from trainee techniques used.

10. A process for training procedures as in claim 1 including:

providing a virtual environment for manufacturing techniques to simulate accessing and servicing of radiological equipment used.

11. A process for training procedures as in claim 1 including:

obtaining available information that includes capturing and creating the VTE data on radiology equipment drawings, measurements and digital images of the radiological equipment used.

12. A process for training procedures as in claim 1 including:

presenting the trainee with a computer based presentation of optimum operating procedures.

13. A process for training procedures as in claim 1 including:

obtaining patient problems each piece of equipment can assist in diagnosing;

creating computer software representation of patient problems each piece of equipment can assist in diagnosing.

14. A process for training procedures as in claim 1 including:

obtaining expert opinion on the best equipment to use for specific patient problems;

creating computer software representation of the best equipment to be used for evaluating patient problems.

15. A process for training procedures as in claim 1 including:

obtaining expert interpretation of results obtained from the radiological equipment used;

create computer software representative of expert interpretation of results obtained from equipment use.

16. A process for training procedures as in claim 1 including:

recording the procedures performed by the trainee.

17. A process for training procedures as in claim 1 including:

Interfacing with Learning Management Systems Software for recording, documenting and scoring the procedures and tests performed by the trainee.

18. A process for training procedures as in claim 13 including:

obtaining expert opinion on the best equipment to use for specific patient problems;

creating computer software representation of the best equipment to be used for evaluating patient problems;

providing screen viewing and evaluation of virtual imaging that results from trainee techniques used.

19. A process for training procedures as in claim 3 including:

providing a virtual manikin for student problem solution interaction;

incorporating force- feedback gloves and sensor-enabling physical manikin interaction to demonstrate trainee competence.

20. A process for training procedures as in claim 15 including:

providing screen viewing and evaluation of virtual imaging that results from trainee techniques used.